New Solar Homes Partnership

Overview

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Presentation Overview

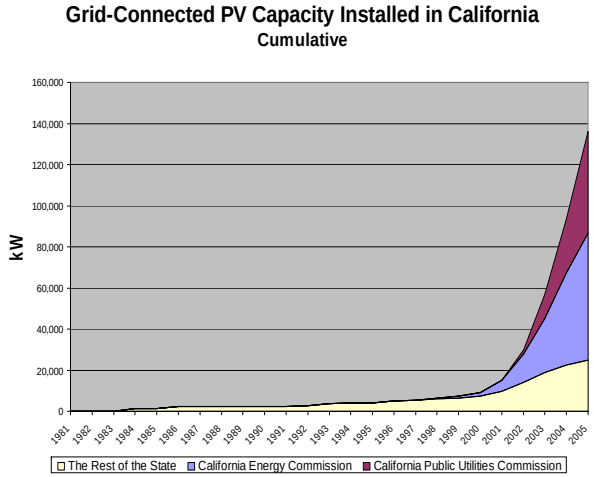
- Background
- Eligible NSHP Participants and Technologies
- Incentive Funding and Structure
- Administrative Procedures and Structure

- More Detailed Presentations To Follow About Incentive Structure and Analysis

Summary

- Baseline: Existing Programs
  - ~150 MW since 2000
- Next Generation: CSI and NSHP
  - 3000 MW by 2016

Transition



New Solar Homes Partnership

- New residential buildings only
  - Production homes
  - Affordable Housing
  - Multi-family apartments
  - Custom homes
- CEC will specifically target and work with the builder/developer community and affordable housing stakeholders

Six of Nine IEPR Policy Principles Covered in Initial Design

- Promote high performing systems that result in cost-effective public funding (in terms of long-term energy generation per $ of incentives)
- Target PV installations to climate zones with high peak demand for air conditioning and where PVs will have most benefit to the grid
- Establish a performance-based incentive structure with long-term declining incentives
- Leverage energy efficiency improvements while deploying photovoltaics, integrating high energy efficiency and considering time-of-use energy
- Incorporate PVs into the 2008 Building Energy Efficiency Standards

Other Three IEPR Policy Principles To Be Phased Into Final Program

- Advanced Metering And Time Variant Pricing
- Viable, Significant Utility Role
- Incorporation of Solar Thermal Technologies

Eligible Participants and Technologies

- Participants
  - New Homes In IOU Service Territories
  - Builder, Homeowner, or Installer Could Get Incentive
  - Work With Publicly Owned Utilities To Coordinate Statewide
- Technologies
  - Certified Systems and Components
  - Photovoltaics (Including Tracking PV, Concentrating PV)
  - Solar Thermal Electric Generators?
  - Solar Thermal Heating and Cooling
- Other Eligibility Requirements
  - High Level of Energy Efficiency
  - Metering and Rate Design

High Levels of Energy Efficiency

- New Solar Homes Partnership Goal (IEPR)
  - Readily available energy efficiency measures
  - Smaller and less expensive PV systems
  - Maximizes use of societal resources
  - Honors state loading order priority (delivers both priority technologies at once)
- Lowest level under consideration
  - Energy Star (15% better than T24)
- Higher level under consideration
  - Building America (30-40% better than T24)
- Energy Star appliances and high efficacy lighting

Incentive Structure and Levels

- Basic Incentive Structure:
  - Expected Performance Based Incentive (EPBI)
  - Probable Enhanced Incentive For Higher EE
- Other Cases Or Enhancements
  - Affordable Housing – Discussed June 13th
  - Solar Thermal
  - Ancillary Assistance: Training, Recognition, Technical, Marketing and Outreach

PV Performance Issues

- Design/Installation Factors
  - Tilt, Orientation, Site characteristics such as shading, etc.,
  - Module/Inverter mismatch, wiring, etc.
  - Location (Average Annual Insolation)
- Ongoing Normal Performance Factors
  - Dirt, Shading
  - Degradation
  - Weather variability
- Infrequent But Significant Factors
  - Inverter failure
  - Fuses, etc.

Incentive Levels Over Time

Year	Volume (MW)	Incentive $/Watt	Annual Budget
2007	5	**2.25**	11.25
2008	10	**2**	20
2009	15	**1.75**	26.25
2010	20	**1.5**	30
2011	30	**1.25**	37.5
2012	40	**1**	40
2013	50	**0.8**	40
2014	65	**0.6**	39
2015	80	**0.4**	32
2016	100	**0.2**	20

Incentive Trigger Mechanism

Volume Trigger By Confirmed Reservation

- Ensures Budget For Goal
- Provides Automatic Reaction to Market Growth
- 1- month Lag For Market Notice

- Time Trigger (6 months or 1 year)
  - Provides Market Pull In Slow Periods
  - Ensures Timing For Goal
- Commission Continues To Have Adjustment Flexibility

Ancillary Assistance (Market Building)

- Guidelines And Technical Support For Builders
- Training Programs and Videos For Builders, Installers, HERS Raters
- Strong branding campaign, outreach program to help achieve goals
  - Need some basic market research updates to get to what really will work – not just willingness to pay

Procedures, Specifications, Admin

- First Come First Served
- 24 month reservation period
- Field Verification Prior To Payment
- Advanced Metering Infrastructure (AMI) being rolled out from 2006-2013
- Administrative Function Contracted Out
- Will include periodic evaluations

Summary of Benefits to California

- Incentives, calculation tool, protocols motivate and enable builders to deliver high performing PV systems.
- Information and process that is direct extension of the current T24 infrastructure.
- "Expected" performance-based system that provides builders with up-front rebates.
- Priority on sunnier, hotter climates where building starts are concentrated, peak demand is greatest and impacts on system reliability are severe.
- Meets Commission objectives for PVs in combination with high energy efficiency.